

**AMHERST BOARD OF HEALTH REGULATIONS FOR  
PRIVATE WELLS**

**Adoption Date: October 30, 2008**

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**I. PURPOSE**

These regulations are intended to protect the public health and general welfare by ensuring that private wells are constructed in a manner which will protect the quality of the groundwater derived from private wells.

**II. AUTHORITY**

These regulations are adopted by the Amherst Board of Health, as authorized by Massachusetts General Laws, Chapter III, section 31. These regulations supersede all previous regulations adopted by the Board of Health pursuant to the construction of private wells. These regulations are derived from the Massachusetts Department of Environmental Protection Model Board of Health Regulations for Private Wells, October 30, 1989, as revised February 1998.

**III. DEFINITIONS**

Agent: Any person designated and authorized by the Board to enforce these regulations. The agent shall have all the authority of the appointing Board and shall be directly responsible to the Board and under its direction and control.

Applicant: Any person who intends to have a private well constructed and is applying for a permit for same.

Board: The Board of Health of Amherst, Massachusetts or its authorized agent.

Casing: Impervious durable pipe placed in a boring to prevent the walls from caving and to serve as a vertical conduit for water in a well.

Certified Laboratory: Any laboratory currently certified by the Massachusetts Department of Environmental Protection for analysis of drinking water. Provisional certification shall also qualify.

Person: An individual, corporation, company, association, trust, or partnership.

Private Well: Any dug, driven, or drilled hole, with a depth greater than its largest surface diameter developed to supply water intended and/or used for human consumption and not subject to regulation by 310 CMR 22.00.

Pumping Test: A procedure used to determine the characteristics of a well and adjacent geologic formation by installing and operating a pump.

Registered Well Driller: Any person registered with the Department of Environmental Management/Office of Water Resources to dig or drill wells in the Commonwealth of Massachusetts.

Static Water Level: The level of water in a well under non-pumping conditions.

Structure: A combination of materials assembled at a fixed location to give-support or shelter, such as a building, framework, retaining wall, fence, or the like.

#### IV. WELL CONSTRUCTION PERMIT

The property owner or his designated representative shall obtain a permit from the Board of Health prior to the commencement of construction of a private well.

Each permit application to construct a well shall include the following:

- 1) the property owner's name and address
- 2) the well driller's name and proof of valid state registration
- 3) a plan with a specified scale showing the location of the proposed well in relation to existing or proposed above or below ground structures on the subject property.
- 4) a written description of visible prior and current land uses within two-hundred (200) feet of the proposed well location, which represent a potential source of contamination, including but not limited to the following:
  - a) existing and proposed structures
  - b) subsurface sewage disposal systems
  - c) subsurface and above ground fuel storage tanks
  - d) public ways
  - e) utility rights-of-way
  - f) any other potential sources of pollution.
- 5) proof that the owner of any property within one hundred and fifty (150) feet of the well and all property abutters have been notified by registered or certified mail, return receipt requested, of the applicant's intention to install a well.
- 6) a permit fee of \$100.00

The permit shall be posted in a visible manner on site at all times that work is taking place. Each permit shall expire one (1) year from the date of issuance unless revoked for cause. Permits may be extended for one additional six (6) months period provided that a

written request has been received by the Board prior to the one year expiration date, and the Board subsequently votes to grant such an extension. No additional fee shall be charged for a permit extension, provided there is no change in the plans for the proposed well.

Well Construction Permits are not transferable.

## V. WATER SUPPLY CERTIFICATE

The issuance of a Water Supply Certificate by the Board shall certify that the private well may be used as a drinking water supply. No person shall use a private well, installed after the effective date of these regulations, as a drinking water supply without a Water Supply Certificate issued by the Board of Health.

The following shall be submitted to the Board of Health to obtain a Water Supply Certificate:

- a) well construction permit
- b) copy of the Water Well Completion Report as required by the DEM Office of Water Resources (313 CMR 3.00)
- c) a copy of the Pumping Test Report required pursuant to Section VII of these regulations
- d) a copy of the Water Quality Report required pursuant to Section VIII of these regulations.

Upon the receipt and review of the above documents, the Board shall make a final decision on the application for a Water Supply Certificate. A final decision shall be in writing and shall comprise one of the following actions:

- a) Issue a Water Supply Certificate
- b) Deny the applicant a Water Supply Certificate and specify the reasons for the denial.
- c) Issue a conditional Water Supply Certificate with those conditions which the Board deems necessary to ensure fitness, purity and quantity of the water derived from that private well. Said conditions may include but not be limited to requiring treatment or additional testing of the water.

It shall be the responsibility of the applicant to transmit a copy of any issued Water Supply Certificate or conditional Water Supply Certificate to the Building Commissioner in association with any request for a certificate of occupancy for any building(s) to be served by a private well.

## VI. WELL LOCATION AND USE REQUIREMENTS

In locating a well, the applicant shall identify all potential sources of contamination which exist or are proposed within two hundred (200) feet of the site. When possible, the well shall be located upgradient of all potential sources of contamination and shall be as

far removed from potential sources of contamination as possible, given the layout of the premises.

Each private well shall be accessible for repair, maintenance, testing, and inspection. The well shall be completed in a water bearing formation that will produce the required quantity of water under normal operating conditions.

Each private well shall be located at least ten (10) feet from any property line. The centerline of a well shall, if extended vertically, clear any projection from an adjacent structure by at least five (5) feet.

All private wells shall be located a minimum of 25 feet away from the normal driving surface of any public roadway or a minimum of 15 feet from property boundary of the road right-of-way, whichever is greater.

Each private well shall be located at least 25 feet, laterally, from the normal high water mark of any lake, pond, river, stream, ditch, or slough. When possible, private water systems shall be located in areas above the 100-year floodplain.

A suction line or well shall be located a minimum of 10 feet from a building sewer constructed of durable corrosion resistant material with watertight joints, or 50 feet from a building sewer constructed of any other type of pipe; 50 feet from a septic tank; 100 feet from a leaching field; and 100 feet from a privy.

Water supply lines shall be installed at least 10 feet from and 18 inches above any sewer line. Whenever water supply lines must cross sewer lines, both pipes shall be constructed of class 150 pressure pipe and shall be pressure tested to assure a watertight-condition.

The Board reserves the right to impose greater dimensional requirements than those listed, and to impose minimum lateral distance requirements from other potential sources of contamination not listed above. All such special well location requirements shall be listed, in writing, as a condition of the well construction permit.

No private well, or its associated distribution system, shall be connected to either the distribution system of a public water supply system or any type of waste distribution system.

## VII. WATER QUANTITY REQUIREMENTS

The applicant shall submit to the Board for review and approval a Pumping Test Report. The Pumping Test Report shall include the name and address of the well owner, description of well location if different from that described in the well construction permit application, date the pumping test was performed, depth at which the pump was set for the test, location for the discharge line, static water level immediately before

pumping commenced, discharge rate and, if applicable, the time the discharge rate changed, pumping water levels and respective times after pumping commenced, maximum drawdown during the test, duration of the test, including both the pumping time and the recovery time during which measurements were taken, recovery water levels and respective times after cessation of pumping, and reference point used for all measurements.

In order to demonstrate the capacity of the well to provide adequate water a Required Volume is pumped during the test. The Required Volume is calculated as follows:

1. The volume of water necessary to support the household's daily need shall be determined using the following equation: (number of bedrooms plus one bedroom) x (110 gallons per bedroom) x (a safety factor of 2) = number of gallons needed daily.
2. The storage capacity of the well shall be determined using the measured static water level and the depth and radius of the drillhole or casing.
3. The Required Volume shall be calculated by adding the volumes of water in (1) and (2) above.

Successful completion of the pumping test requires

- a) that the well be pumped at a sustained rate of at least 0.5 gallons per minute
- b) that the Required Volume be pumped from the well within a period not to exceed 24-hours.
- c) that, within a twenty-four (24) hour period after the cessation of pumping, the water level in the well recovers to at least eighty-five (85) percent of the prepumped static water level.

If the well fails to sustain a pumping rate of 0.5 gallons per minute, fails to yield the Required Volume within a 24 hour period, or if the water level in the well fails to recover to within 85 percent of the prepumped static water level within a 24 hour period, the well should be redeveloped, hydrofractured, and/ or deepened. After completing the chosen procedure(s), another pumping test should be conducted.

## VIII. WATER QUALITY TESTING REQUIREMENTS

After the well has been completed and disinfected, and prior to using it as a drinking water supply, a water quality test shall be conducted.

A water sample shall be collected either after purging three well volumes or following the stabilization of the pH, temperature and specific conductance in the pumped well. The water sample to be tested shall be collected at the pump discharge or from a disinfected tap in the pump discharge line. In no event shall a water treatment device be installed prior to sampling.

The water quality test, utilizing an applicable US EPA approved method for drinking water testing shall be conducted by an EPA or Massachusetts certified laboratory and shall include analysis for the parameters listed in Appendix A. Samples taken from wells completed in crystalline bedrock should also be analyzed for radon, arsenic, and selenium. Additionally, in areas where current or historical land use includes agriculture, the sample should be analyzed for pesticides, herbicides, and arsenic. The results shall be compared to Massachusetts drinking water standards for public water supplies.

Following a receipt of the water quality test results, the applicant shall submit a Water Quality Report to the Board which includes:

- 1) a copy of the certified laboratory's test results
- 2) the name of the individual who performed the sampling
- 3) where in the system the water sample was obtained

Because water quality at a well can change over time the Board recommends that the well be retested at intervals not to exceed ten years. More frequent retesting should be conducted if the well is in an agricultural, commercial, industrial or high density residential area. Retesting should also be considered if any of these conditions occur: an extended drought, an extended wet (high water table) period, significant changes in local hydrologic conditions.

The Board reserves the right to require retesting of the above parameters, or testing for additional parameters when, in the opinion of the Board, it is necessary due to local conditions or for the protection of public health, safety, and welfare. All costs and laboratory arrangements for water testing are the responsibility of the applicant.

Retesting shall be conducted if the title to the property on which the well is placed is transferred. Exclusions from this requirement follow those described in 310 CMR 15.301 (Title V – for septic systems).

## IX. WELL CONSTRUCTION REQUIREMENTS

No person shall construct a private well unless they are a Registered Well Driller as defined in these Regulations.

Any work involving the connection of the private well to the distribution system of the residence must conform to the local plumbing code. All electrical connections between the well and the pump controls and all piping between the well and the storage and/or pressure tank in the house must be made by a pump installer or registered well driller, including the installation of the pump and appurtenance in the well or house.

A physical connection is not permitted between a water supply which satisfies the requirements of these regulations and another water supply that does not meet the requirements of these regulations without prior approval of the Board.

All aspects of construction of a well, including well screen, well casing, wellhead completion, grouting and sealing, pumps, and disinfection shall be in accordance with the Massachusetts Department of Environmental Protection Private Well Guidelines.

In addition, the following requirements must be followed:

All private water supply wells shall be designed such that no unsealed opening will be left around the well that could conduct surface water or contaminated groundwater vertically to the intake portion of the well or transfer water from one formation to another.

Private water supply wells shall be constructed using either steel, thermoplastic or precast concrete pipe well casing. The casing shall be of adequate strength and durability to withstand anticipated formation and hydrostatic pressures, the forces imposed on it during installation, and the corrosive effects of the local hydrogeologic environment.

Private wells drilled in bedrock shall be grouted from the top of the weathered rock interface to fifteen (15) feet into competent bedrock.

All wells completed with the casing extending above grade shall have a surface seal designed to eliminate the possibility of surface water flowing down the annular space between the well casing and the surrounding backfilled materials.

All pumps shall be installed either below the frost line with a pitless adapter or in some other heated and protected sanitary location. Above ground pumps shall be installed in sheltered, dry, accessible locations and shall be protected from freezing.

## X. DECOMMISSIONING REQUIREMENTS

Abandoned wells, test holes, and borings shall be decommissioned to prevent the well and the annular space outside the casing from serving as a water conduit. The criteria for abandoning a well and the subsequent decommissioning procedures shall be in accordance with the Massachusetts Department of Environmental Protection Private Well Guidelines. Within 30 days of the decommissioning a copy of the Decommissioning Report, containing information described in the DEP Private Well Guidelines, shall be provided to the Board and filed at the Hampshire Registry of Deeds. A copy of a receipt for such filing shall be submitted to the Board.

## XI. ENFORCEMENT

### 1. Permit or Certificate Suspension or Revocation

The Board of Health may suspend or revoke any Well Construction Permit, Water Supply Certificate, or variance issued pursuant to these regulations for any violation of these regulations, or any other applicable General Law, regulation or by-law, or if

the results of a well-test demonstrates that water from the well is no longer suitable for human consumption. Such revocation or suspension may take place after a hearing held by the Board of Health of which the permit holder is given seven (7) days written notice. Such notice shall be deemed given upon mailing same, certified mail, return receipt requested, to the address listed on the permit application.

Nothing in this section shall prevent the Town from taking emergency action to prevent an imminent risk to the health, safety or welfare of the public or the users of a private well.

## 2. Non-Criminal Disposition

This regulation may be enforced by any Town police officers or agents of the Town's Board of Health.

Whoever violates any provision of this regulation may be penalized by a non-criminal disposition process as provided in G.L. c.40, §21D and the Town's non-criminal disposition by-law. If non-criminal disposition is elected, then any person who violates any provision of this regulation shall be subject to a penalty in the amount of three hundred dollars (\$300.00) per day for each day of violation, commencing ten (10) days following day of receipt of written notice from the Board of Health. Each day or portion thereof shall constitute a separate offense. If more than one, each condition violated shall constitute a separate offense.

## 3. Other

Whoever violates any provision of this regulation may be penalized by indictment or on complaint brought in the district court. Except as may be otherwise provided by law and as the district court may see fit to impose, the maximum penalty for each violation or offense shall be one thousand dollars (\$1000.00). Each day or portion thereof shall constitute a separate offense. If more than one, each condition violated shall constitute a separate offense.

The Board of Health may enforce these Regulations or enjoin violations thereof through any lawful process, and the election of one remedy by the Board of Health shall not preclude enforcement through any other lawful means.

## XII. VARIANCE

The Board may, after a public hearing, grant a variance to the application of these regulations when, in its opinion, the enforcement thereof would do manifest injustice, and the applicant has demonstrated that the equivalent degree of protection will still be provided to the private water supply without strict application to particular provisions of these regulations.



Every request for a variance shall be made in writing and shall state the specific variance sought and the reasons therefore. The writing shall contain all the information needed to assure the Board that, despite the issuance of a variance, the public health and environment will be protected. Notice of the hearing shall be given by the Board, at the applicant's expense, at least ten (10) days prior thereto, by certified mail to the owner of any property within one hundred and fifty (150) feet of the well to all abutters of the property upon which the private well is located and by publication in a newspaper of general circulation in the town or city in which the private well is located. The notice shall include a statement of the variance sought and the reasons therefore. Any grantor denial of a variance shall be in writing and shall contain a brief statement of the reasons for approving or denying the variance. A copy of each variance shall be conspicuously posted for thirty (30) days following its issuance and shall be available to the public at all reasonable hours in the office of the Town Clerk, Building Commissioner, or Office of the Board of Health. No work shall be done under any variance until thirty (30) days shall have elapsed from its issuance, unless the Board certifies in writing that an emergency exists.

Any variance may be subject to such qualification, revocation, suspension, condition, or expiration as is provided in these regulations or as the Board expresses in its grant of the variance. A variance may otherwise be revoked, modified or suspended, in whole or in part, only after the holder thereof has been notified in writing and has been given an opportunity to be heard, pursuant to Section XI of these regulations.

### XIII. SEVERABILITY:

If any provision of these regulations or the application thereof is held to be invalid by a court of competent jurisdiction, the invalidity shall be limited to said provision(s) and the remainder of these regulations shall remain valid and effective. Any part of these regulations subsequently invalidated by a new state law or modification of an existing state law shall automatically be brought into conformity with the new or amended law and shall be deemed to be effective immediately, without recourse to a public hearing and the customary procedures for amendment or repeal of such regulation.

### XIV. EFFECTIVE DATE

These regulations were adopted by vote of the Amherst Massachusetts Board of Health, at their regularly scheduled meeting held on October 30, 2008 and are to be in full force and effect on and after December 1, 2008. Before said date, these regulations shall be published and a copy thereof be placed on file in the Board of Health Offices and filed with the Department of Environmental Protection, Division of Wastewater Management (formerly Division of Water Pollution Control) in Boston. These regulations or any portions thereof may be amended, supplemented or repealed from time to time by the Board, with notice as provided by law, on its own motion or by petition.

XV. DISCLAIMER

The issuance of a well permit shall not be construed as a guarantee by the Board or its agents that the water system will function satisfactorily nor that the water supply will be of sufficient quality or quantity for its intended use.

## Appendix A: Required Analytes for Testing of Private Well Water Quality

Aluminum
Chloride
Coliform Bacteria
Color
Copper
Fluoride
Foaming Agents
Iron
Manganese
Nitrate
Odor
pH
Silver
Sodium
Sulfate
Total Dissolved Solids
Turbidity
Zinc

### Volatile Organic Compounds

Benzene

Carbon Tetrachloride

Dichloromethane

o-Dichlorobenzene

p-Dichlorobenzene

1,2-Dichloroethane

cis-1,2-Dichloroethylene

trans-1,2-Dichloroethylene

1,1-Dichloroethylene

1,2-Dichloropropane

Ethylbenzene

Methyl Tertiary Butyl Ether(MTBE)

Monochlorobenzene

Styrene

Tetrachloroethylene (PCE)

Toluene

Trichloroethylene (TCE)

1,1,1-Trichloroethane (1,1, 1-TCA)

1,2,4-Trichlorobenzene

1,1,2-Trichloroethane

Vinyl Chloride (VC)

Xylenes(total)